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| APPLICATION NO.                                 | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/723,392                                      | 11/26/2003  | Albert Bruynesteyn   | BRA-10002/03        | 7947             |
| 25006   | 7590        | 11/30/2006           | EXAMINER            |                  |
| GIFFORD, KRASS, GROH, SPRINKLE & CITKOWSKI, P.C |             |                      | BOS, STEVEN J       |                  |
| PO BOX 7021                                     |             |                      | ART UNIT            |                  |
| TROY, MI 48007-7021                             |             |                      | PAPER NUMBER        |                  |
|   |             |                      | 1754                |                  |

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                     |  |
|------------------------------|-----------------|---------------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s)        |  |
|                              | 10/723,392      | BRUYNESTEYN, ALBERT |  |
|                              | Examiner        | Art Unit            |  |
|                              | Steven Bos      | 1754                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3-04, 12-05</u> . | 6) <input type="checkbox"/> Other: ____.  |

Art Unit: 1754

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 4-5, "the hydrophobic sulphur" lack(s) proper antecedent basis in the claim(s).

In claim 1, line 7, "the preconditioned sulphur particles" lack(s) proper antecedent basis in the claim(s).

In claim 4, "50% - 400 mesh" is indefinite as to what this is to mean.

In claim 5, "the preconditioning process" lack(s) proper antecedent basis in the claim(s).

In claim 7, "the preconditioning process" lack(s) proper antecedent basis in the claim(s).

In claim 8, "the preconditioning process" lack(s) proper antecedent basis in the claim(s).

In claim 9, "the leach solution reservoir" lack(s) proper antecedent basis in the claim(s).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1754

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duyvesteyn '239 in view of Winby H2005H.

Duyvesteyn teaches the instantly claimed process of combining elemental sulfur with *Thiobacillus thiooxidans* and *Thiobacillus ferrooxidans* to form a solution, ie. is wetted, that is applied to a metal containing ore to form agglomerates for heap leaching the ore to release or extract metal values from the ore. See cols. 4,8.

Duyvesteyn may differ in that the elemental sulfur being finely ground is not stated.

Winby teaches a similar bioleaching process in a heap to recover metal values in which milled or ground elemental sulfur is used. See cols. 2-5.

It would have been obvious to one skilled in the art to use milled or ground elemental sulfur in the process of Duyvesteyn because each is drawn to a similar process of heap bioleaching metal containing ore using sulfur and because it is well known in the art that grinding solids to smaller sizes provides greater surface area with

Art Unit: 1754

which the solids can participate in reactions. The examiner takes Official notice that the dependent claims are drawn to process particulars which are well known in the art and therefore obvious to one skilled in the art.

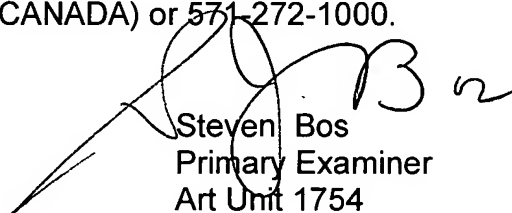
The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see *In re Boesch*, 205 USPQ 215.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Bos whose telephone number is 571-272-1350. The examiner can normally be reached on M-F, 8AM to 6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1754

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Steven Bos  
Primary Examiner  
Art Unit 1754

sjb